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ABSTRACT

This management kit introduces building managers to the concept of Integrated Pest Management (IPM), and provides the knowledge and tools needed to implement an IPM program in their buildings. It discusses the barriers to implementing an IPM program, why such a program should be used, and the general guidelines for its implementation. Managerial and monitoring reports for IPM program evaluation are provided along with guidance sheets for IPM buildings and information on the role of building managers responsible for pest control activities. Additional IPM guidance sheets are provided for business management staff responsible for recycling activities, waste disposal and disposal contracts, custodial services, landscape grounds design and maintenance, renovation and construction projects, building repair and repair contracts, food service managers, HVAC, electrical, plumbing, roofing, office workers, teachers, students, and condominium and apartment residents. The kit also contains sample evaluation and contact list forms along with a list of IPM and pesticide resources. (GR)

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IPM

Integrated Pest Management Kit For Building Managers

HOW TO IMPLEMENT AN INTEGRATED PEST MANAGEMENT PROGRAM IN YOUR BUILDING(S)

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MASSACHUSETTS DEPARTMENT OF FOOD AND AGRICULTURE
PESTICIDE BUREAU

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Written by Brad Mitchell with input from the UMass Extension IPM Program, Department of Food and Agriculture Staff, U.S. Environmental Protection Agency staff, and members of the New England Pest Control Association.

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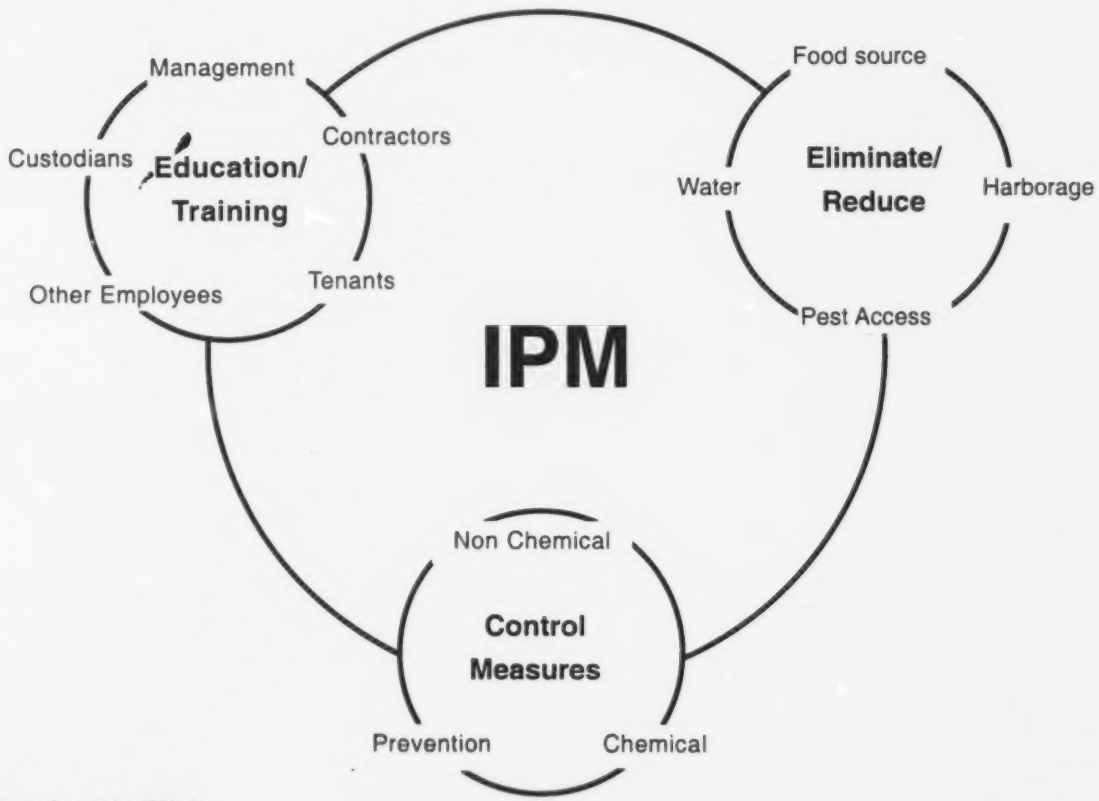
What Is IPM?

Traditional methods of pest control usually involves no more than periodic applications of pesticides. IPM is a common sense approach to pest management that uses a variety of methods to control pests. Chemical pesticides may be part of an IPM program. However, considerable effort is also put towards preventing pest problems by controlling conditions which may attract and support pests. IPM has been used successfully for many years in agriculture, and is increasingly being applied in non-agricultural settings.

In structural pest control (pest control in and around buildings), IPM focuses mainly on eliminating or reducing sources of food, water, and harborage that are available to pests, and limiting pest access into and throughout buildings. Control measures such as sanitation, and building maintenance and modifications are strong elements of a structural IPM program. The success of such a program requires the collaborative efforts of everyone involved in the management and maintenance of a building including service contractors, tenants, custodians, and other employees. Education and cooperation are necessary parts of any IPM program.



What is this Kit?

This kit is designed for those who are in charge of managing buildings. It is intended to introduce building managers to the concept of Integrated Pest Management (IPM), and to provide them with the knowledge and the tools needed to implement an IPM program in their buildings.

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Why Use IPM?

During the last two decades there has been an increased concern and awareness about the use of chemicals, and their effects on both human health and the environment. Pesticides, because they are toxic by definition, are often the focus of this concern.

For building managers, one pesticide related issue which is gaining increasing attention is indoor air quality. While pesticides are not the only factor associated with indoor air quality problems, they are often implicated as a contributing element. Even where problems with indoor air quality are not apparent, pesticide use is increasingly becoming a contentious and emotional issue with building occupants.

As a result, building managers are being put under increasing pressure to address pesticide concerns, and account for pesticide use in their buildings. At the same time, they continue to be responsible for controlling insects and rodents. These pests may also pose health risks or damage buildings and goods. Many involved in this issue, ranging from pest control contractors to environmental groups, are putting Integrated Pest Management (IPM) forward as the best means of balancing the need for pest control, with the concerns pesticides may raise.

In most situations where IPM has been implemented, both pesticide use and pest problems have decreased dramatically.

Benefits of IPM include:

1. **Better Pest Control**
   Effectively applied, IPM programs have been shown to provide better results and last longer than traditional pest control.

2. **A Safer and Healthier Workplace**
   Both pests and pesticides pose health concerns for building occupants. Pests carry human pathogens and may produce potent human allergens. Building occupants may be exposed to pesticides through the air, or direct contact with treated surfaces. IPM is being recognized by many experts as the best means to control pests effectively, while using the least amount of pesticide necessary. An increasing number of states, municipalities and schools systems are mandating that IPM programs be implemented in their buildings.

   Since IPM results in fewer pests than traditional pest control, it usually results in less pesticide use. However, whether IPM will reduce the amount of pesticide used in a building will in large part be determined by what was being done for pest control before an IPM program was implemented. Most building managers report substantial reduction in pesticide use with IPM.

3. **Lower Costs**
   Changes in cost, like pesticide use reduction, will in large part depend on what was being done for pest control before an IPM program was implemented. In many cases, IPM programs result in similar or lower costs than traditional pest control programs. Some pest control costs may rise initially when certain aspects of an IPM program are put into place (such as structural modifications). Over time however, these costs usually balance out in terms of savings in pest control, or other budgets. Cultural controls and structural modifications applied for pest control purposes often have other benefits such as improved work environments, reduced energy costs, and reduced building maintenance.

4. **Better Public and Occupant Relations**
   IPM is a proactive method of controlling pests which demonstrates that Building Management is environmentally conscious and is concerned about the health of building occupants.

Barriers to IPM

There may be barriers to implementing an IPM program. Barriers may include the following:

- Some building managers may perceive IPM as expensive to implement. In some cases this may be true, especially if maintenance and pest problems of the past have been ignored or dealt with improperly. Costs must also be measured over a period of time. While they may rise initially, overall costs will go down and stay down with an effective program.

- In most buildings, pest control is often seen as the responsibility of one individual. However, factors which contribute to pest problems are often under the control of other individuals who may not think in terms of how their activities affect pest populations. For instance plumbers, electricians, and custodians all have a role in managing pest problems. Training, cooperation, and coordination are keys to a successful IPM program.

- Even when individuals are trained and informed of their roles in an IPM project, they still may not care or feel that it is their responsibility. Everyone who has a role in IPM must be committed and held accountable.

- IPM is relatively new to decision-makers using commer-

cial and in-house pest control services. These persons may not know what considerations to take into account when issuing purchase orders, making budgets, and sending out requests for proposals (RFPs).

- IPM requires more skill and knowledge than traditional pest control, so some pest control contractors may not be up to the task of implementing IPM.

- Price is often used as the sole criteria by which pest control contracts are awarded. This often forces contractors to do the "bare minimum" and ignore many aspects of IPM. **RFPs and contract proposals must contain language which addresses specific elements of IPM.**

- IPM requires a degree of participation from tenants and others who use buildings. In the past, these persons may have had a passive or nonexistent role in the pest management activities going on around them.

- Lack of education on IPM by Building Management Staff and building occupants contributes to lack of public participation. This results in a little incentive to participate in the IPM program.

How to Implement an IPM Program

A successful IPM program will require a firm commitment from a fairly large number of individuals. Someone in a position of authority from Building Management will have to stand behind the program and make and enforce IPM-related policies. An IPM program will only be as strong as the commitment of those involved.

The exact steps in implementing an IPM program will vary between buildings, depending on how the management organization is structured, management styles, etc. Below are general guidelines on how to proceed:

STEP 1 - *Pest Control Supervisor*

The person in charge of Building Management should designate a Pest Control Supervisor. This person will be responsible for overseeing all pest control operations and related activities. The Pest Control Supervisor will serve as a liaison to and between tenants, other Building Management personnel, pest control contractors and other contractors on all matters relating to pest control. The ultimate goal of this person is to insure that an IPM approach is followed.

In multi-building facilities, it may be advisable to designate a person within each building to oversee pest control activities. This person can either act on their own as a Pest Control Supervisor, or report to a "Lead" Pest Control Supervisor within Building Management.

The Pest Control Supervisor should receive a complete copy of this kit, and may be responsible for implementing Steps 2-6.

STEP 2 - *IPM Policy*

It is important for Building Management to develop an IPM policy and present it to all affected parties. A brief, written policy announcement is recommended. The announcement should be sent to all tenants, building staff and contractors and should contain the following information:

What IPM is. The basic definition of IPM found throughout this kit can be used: **Integrated Pest Management (IPM)** is a common sense approach to pest management that uses a variety of methods to control pests. Chemical pesticides may be part of an IPM program. However, considerable effort is also put towards preventing pest problems by controlling conditions in buildings which may attract and support pests. A successful IPM program requires the collaborative efforts of everyone involved in the management and maintenance of a building.

Why Building Management is dedicated to an IPM approach to pest management. List the reasons why an IPM approach is being taken, such as problems with air quality, poor pest control, tenant concern about pesticide use, etc.

Tell ***who*** will be involved. List the individuals you expect to cooperate and participate such as tenants, building management personnel, etc.

Explain ***how*** the IPM program will be implemented. Give time frames. Describe your general plan including elements such as tenant and personnel education, contract provisions, responsibilities, etc.

STEP 3 - *Educate Building Management Staff*

Building Management personnel responsible for various activities in the building (plumbing, custodial services, etc.) should be educated about IPM, and what their roles are in the IPM program. Supervisors should be able to:

- educate their staff on IPM
- develop IPM related policies relevant to the particular activities
- establish contract provisions which are consistent with, and support, IPM policies

- IPM Guidance Sheets are provided in this kit. They were

designed to introduce various building personnel to the concept of IPM, and describe their basic roles in an IPM program. Guidance Sheets for Building Management personnel are broken down by activity (recycling, roofing, custodial services, etc.). In many cases, personnel will have more than one responsibility, and may receive two or more different Guidance Sheets.

It may also be advisable to have pest control contractors provide training for managers and staff of that building they are servicing. The advantage to building-specific training sessions is that the contractor can then address particular situations and problems.

STEP 4 - *Educate Building Occupants*

Tenants play an extremely important role in an IPM program. If a large number of tenants do not cooperate, many IPM efforts will be unsuccessful and benefits will be lost.

This kit contains two guidance sheets intended for building occupants which outlines ways to avoid and prevent pest problems. One guidance sheet is intended for residents of apartments and condominiums. The other is intended for office workers, students, and teachers. These Guidance Sheets should be photocopied and made available to all tenants.

STEP 5 - *Determine Contract Provisions*

IPM information pertinent to a variety of service contracts is contained within the IPM Guidance Sheets. Anyone involved in writing contracts should consult the Guidance Sheets for appropriate provisions to be included.

In particular, the IPM Guidance Sheet for Building Management Staff in Charge of Pest Control Services and Contracts contains a number of recommendations on how to tailor pest control contracts to IPM.

Step 6 - *Record keeping and Evaluating Program Progress*

The success of any IPM program will depend on the degree of participation from those involved. Compliance with IPM practices and policies by Building Management personnel, contractors, and tenants should be monitored periodically. Recommendations as to how to assess compliance are as follows:

A. Manager IPM Reports - When an IPM program is first being implemented, managers who receive IPM Guidance Sheets should file brief reports on their efforts to implement IPM. Reports should be filed with the Pest Control Supervisor at least twice per year for the first year IPM is implemented. The goal of the reports is to help the Pest Control Supervisor and Contractor assess: compliance with IPM, program effectiveness, and to identify barriers to IPM. A sample Manager IPM Report form is included in this kit.

B. *Pest Control Contractor Reports* - Pest Control Contractors should file the following reports to the Pest Control Supervisor:

1. *Action Plan* - At the beginning of each contract period, the Pest Control Contractor should provide the Pest Control Supervisor with an action plan for the building. This report should include any recommendations on changes that Building Management staff and tenants need to make.

2. *Activity Report* - Pest Control Contractors should provide the Pest Control Supervisor with periodic reports of his or her activities. Activity reports should also contain further recommendations, and note where earlier recommendations have not been implemented. A sample Activity Report Form is included in this kit. Pest Control Contractors may have their Activity Report Forms which are acceptable.

3. *Monitoring Reports* - If your pest control contract calls for monitoring to be done, the Pest Control Supervisor should receive copies of monitoring reports. Many Pest Control Contractors have their own monitoring report forms.

It is the Pest Control Supervisor's responsibility to act as a liaison between the Pest Control Contractor and Building Management and tenants. All recommendations made by the Pest Control Contractors must be passed on to appropriate building managers and tenants. The Pest Control Supervisor should also keep the Pest Control Contractor informed of when recommendations can and cannot be acted on.

Recommendations from the pest control contractor and manager reports should be compared in order to assess compliance and identify problems.

IPM

Guidance Sheets

Pest Control Services ..... A
Recycling ..... B
Waste Disposal and Disposal Contracts C
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Food Service Managers I
HVAC ..... J
Electrical ..... K
Plumbing L
Roofing ..... M
Office Workers ..... N
Condominium and Apartment Residents ..... O

Notes

IPM

Guidance Sheet:

Building Management Staff In Charge Of Pest Control Services and Contracts

Effective pest control in and around buildings doesn't rely just on the pest control contractor. Problems with insects, rodents, birds, etc. are often due to conditions which provide these pests with food, water, harborage, or access into and within buildings. These conditions are usually beyond the control of the pest control contractor, and are in the hands of other individuals who manage the building.

Integrated Pest Management (IPM) is a common sense approach to pest management that uses a variety of methods to control pests. Chemical pesticides may be part of an IPM program. However, considerable effort is also put towards preventing pest problems by controlling conditions in buildings which may attract and support pests. A successful IPM program requires the collaborative efforts of everyone involved in the management and maintenance of a building.

The role of building managers in charge of pest control falls into three categories:

1. Ensuring that Pest Control Contractors rewarded contracts understand and practice IPM concepts. For the most part, this can be accomplished through provisions in RFPs and Contracts.

2. Ensuring that other individuals who occupy, manage, and service the building(s) take measures to prevent and help alleviate, rather than aggravate, pest problems.

3. Record Keeping — receiving pest control reports and making them available to those who need them.

An IPM program may sound like additional work for already overburdened personnel and budgets. However, minor changes in day to day activities are most of what is required when starting an IPM program. Where larger problems do exist, IPM does not dictate that they must be fixed immediately. Priorities and long term plans may shift, but budget and personnel constraints remain valid considerations. When allocating resources however, it should be kept in mind that much of IPM is geared toward prevention. Future savings in terms of avoiding damage caused by pests, and costs of future pest control activities, must be considered. In the long run, IPM is often more cost effective than traditional methods of pest control.

A healthier building is also a benefit of an IPM program. IPM programs usually lead to fewer pests, cleaner buildings, and in most case less pesticide use.

Below are some guidelines on IPM in buildings, and the role of building managers responsible for pest control activities:

General Consideration

For each building, an in-house member of Building Management person should be designated as the Pest Control Supervisor. The Pest Control Supervisor is responsible for all activities related to pest control at that building.

RFP and Contract Provisions

Price should never be a sole criteria in choosing a pest control contractor. The concept of the Lowest Qualified Bidder is key in IPM contracts. Contracts and RFPs must be specific in order to ensure that bidders are qualified.

One approach to finding the best qualified bidder and value is to require a two part bid submission. The first part would involve bidder qualifications. Bidders would be ranked by their ability to meet qualifications. Part two of the bidders submission would provide all cost figures. On comparison, the most qualified, competitive bidder will be identified.

Necessary Elements of Pest Control Contracts — below is a list of elements that should be specified in all pest control contracts. It is not intended to be all inclusive.

- Evidence of applicator licensure (upon awarding the contract) & continuing training.
- Copy of general liability insurance certificates.
- At least three references from similar buildings that

were serviced by that company.

- The scenario on how to solve a pest problem should be as follows:

  A. *Inspection* — The premise should be inspected before controls are applied.

  B. *Identification* — The pest species needs to be correctly identified, the pest damage, or potential for pest infestation.

  C. *Extent of Problem* — The extent of the pest problem needs to be determined.

  D. *Management* — A specific management strategy should be detailed. Four essential elements which should be addressed in the management strategy are:

     1. Sanitation
     2. Physical Exclusion
     3. Mechanical controls (traps, etc.)
     4. Application of pesticides. Effective management of some pest problems requires proper selection and application of pesticides. Consideration should be given to potential for human exposure to the pesticides. Only the minimum amount of chemical which is needed to accomplish the job should be applied.

  E. *Recommendations* — The pest control contractor should make recommendations to Building Managements.

  F. *Evaluation* — Results should be evaluated. If they the results are not satisfactory, the management strategy should be revised and reapplied.

  G. *Training (optional)* — contracts and RFPs can specify that the pest control contractor will be available for training sessions for Building Management personnel and tenants.

  H. *Pesticide and Use-Pattern Limitations* (optional — see next section)

Recommended Elements of Pest Control Contracts below is a list elements that ideally, should be included in pest control contracts. Whether they are included in contracts will be dependent on particular situations:

Monitoring can be an extremely valuable element of an IPM program. Monitoring involves using insect and/or rodent traps to identify locations and extent of pest populations. This helps pest control contractors identify where problem areas are in buildings. Monitoring can be the most expensive component of an IPM program because it is time consuming. Traps must be inspected on a regular basis, requiring the pest control contractor to visit the building frequently.

Monitoring should be part of every IPM program. Monitoring plans can be tailored to the needs and resources of different buildings. Some examples of different monitoring programs include:

- Intensive monitoring may be most beneficial in the early stages of an IPM program, or be applied primarily in certain problem areas of a building such as food service areas.

- "Monitoring windows" can also be established periodically throughout a year. For example, a three week long, intensive monitoring period every six months is better than no monitoring at all.

- It may be possible to have Pest Control Contractors train Building Management staff to conduct monitoring and record results. The Pest Control Contractor is then provided with the results.

- The extent of monitoring activities should be addressed in detail in the RAP or contract. If it is not, then the bids you receive may not be for comparable degrees of service. One approach is to list monitoring as a separate cost item. This then allows you to list several possible monitoring schemes and receive bids for each one.

- Contractors should be given the opportunity to (or preferably be required to) attend a "walk-through" of the building(s) prior to bidding on a contract for that building. This helps ensure that they know what is going to be required, and lessens the chance that they'll cut corners later on.

- Pest control contracts should contain a clause that the contractor will be available to train personnel, review design plans, etc. Because it may difficult to predict the frequency of these events, it might be appropriate to establish an hourly fee. Training can appear as a separate item on the bid specifications. Some bidders may include this as a part of regular service, at no extra cost.

One of the most important aspects of IPM is that the pest control contractor is not there simply to kill pests. While this is an important task, IPM dictates that the contractors take on the equally important role of advising on how to avoid and reduce pest problems. For example, if a renovation is undertaken, the advice of the Pest Control Contractor should be

obtained during both the design and building process. They will be able to provide expertise on what can be done to avoid pest problems.

- Aside from monitoring the activities of the pest control contractor, the Pest Control Supervisor should act as a liaison between the pest control contractor and others who maintain and inhabit the building. The Pest Management Supervisor should receive periodic, written recommendations from the pest control contractor detailing conditions in the building which contribute to pest problems. The Pest Management Supervisor should take steps to inform the proper individuals, and then make sure the recommendations are addressed.

- It is likely that some recommendations made by the Pest Control Contractor will not be able to be implemented immediately because of budget constraints, etc. However, long term benefits should always be evaluated before dismissing a recommendation. It may also be feasible to make recommendations part of long term goals or plans.

"Safer" Pesticides — Contracts and Policies

There is considerable disagreement among IPM proponents on whether IPM programs should mandate that only certain "safer" pesticides, or use-patterns be allowed.

Some feel that it is acceptable to use any EPA registered pesticide, so long as it is used in accordance with label directions. People with this viewpoint often argue that excluding certain chemicals or use patterns is unnecessary, and will limit the ability to effectively control pests.

Others argue that no program truly meets the definition of IPM unless it contains a provision which excludes or restricts the use of "riskier" products and practices (quotations are used here because there is also disagreement as to what the terms "safer" and "riskier" involve).

Ultimately, the choice of whether to limit certain pesticides or use-patterns will be up to the person in charge of pest control for a building. Below is information which should help you to establish policies and contract provisions relating to low risk pesticide use:

Lower Risk

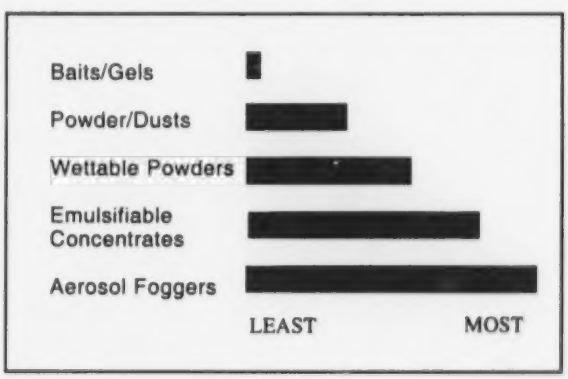
The term "least toxic" is often used to describe preferred pesticide products to be used in IPM programs. "Lower risk" is a much more accurate term. The toxicity of a chemical alone does not predict or describe the risk associated with the use of the chemical. The risk posed by the use of chemical is a function of both the toxicity of that chemical and the potential for people to be exposed to it.

With indoor pesticide use, it is very difficult to compare the toxicity of one pesticide to another, and determine whether one is preferable to the other. Some toxic effects may not be directly comparable. For example, Pesticide A may be considered to be a less potent systemic toxin than Pesticide B, however, it might be a more potent allergen. Other factors which make it difficult to compare the toxicity of one pesticide to another may include: differences in the dilution rate of the final spray solution (a more toxic chemical may be used at a lower rate of application) and the presence of "inert" ingredients of concern.

It makes much more sense to try to control pesticide exposure, rather than toxicity. Exposure occurs via three main routes - inhalation, dermal exposure, and ingestion. Inhalation is the most important route of exposure in indoor pesticide use. The two primary factors involving inhalation exposure are the volatility of the product (including inert solvents) and the amount of chemical which is applied.

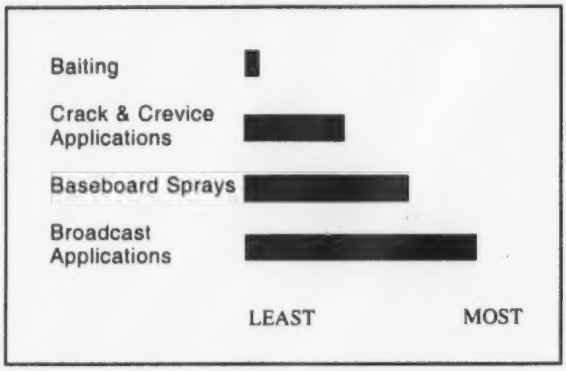
Product formulations are generally the best predictor of how well a pesticide, or a solvent contained in it, will enter the air:

Likelihood the Pesticide Will Become Airborne



Use-pattern is often the best predictor of the amount of chemical which is ultimately applied:

Use Pattern and Amount of Pesticide Used



Note: wall void treatments with powder formulations utilize a large amount of chemical, however the exposure is generally very low because the chemical is contained.

Sensitive Populations

Certain groups of people are more sensitive to the effects of chemicals than the general population. It may be wise to limit pesticide use in buildings, or areas of buildings, heavily frequented by potentially sensitive populations. Sensitive populations may include the following:

Children — When pesticides are used in a building, children are likely to be exposed to a greater amount of pesticide in the same building. Children are physically closer to areas where pesticides are likely to be applied, and exhibit more hand to mouth action than adults. They also breathe more in proportion to their body weight than adults. Children exposed to the same concentration of a chemical in the air as an adult, will receive proportionally larger amounts of the chemical in relation to their body weight. Physiological differences, such as developing metabolic systems, may also make children more susceptible to the effects of chemicals.

Elderly — Elderly persons may also be more susceptible to the effects of pesticides. Physiologically, elderly persons may be more sensitive to chemicals because of the following: 1) advanced age often leaves persons with compromised defense mechanisms; 2) they are more likely to have medical conditions which may leave them with more susceptible to chemicals; 3) they are more likely to be taking medication which could interact with pesticides.

Patients — depending on the nature of their illness and what medications they may be taking, patients may be sensitive to the effects of chemicals in their environment.

Schools, day care centers, hospitals, nursing homes, etc. are all types of buildings where the use of low risk pesticides should be considered.

Application Considerations

Timing — With many pesticide applications, the timing of the application can have a significant impact on the potential for building occupants to be exposed to the pesticide. In general, the greater the period of time between when the application is made, and when the area is occupied, the lower the potential for exposure.

Timing of applications, in relation to activities of building occupants, should be considered. Appropriate provisions should be included in contracts. For example, schools can mandate that applications be made on Friday afternoons, after students are dismissed. This would allow the longest possible amount of time between the application and when the rooms are reoccupied (see also ventilation, below).

Some types of pesticides do not present significant potential for exposure even while they are being applied. This is generally true for all baits.

Site — Where a pesticide is used, in relation to the activities of the building occupant, is also a factor which affects exposure. The use of volatile products in occupied rooms should be avoided where possible. The activities of building occupants should be considered when choosing the type of application to make. For example, the use of a residual baseboard spray in an office setting is of less concern than it would be in a preschool classroom with crawling toddlers.

Ventilation — When a volatile pesticide product is used, it is wise (and sometimes required) that the treated area be ventilated prior to it being reoccupied. When ventilation is required, it will be clearly marked on the label.

IPM

Guidance Sheet:

Building Management Staff In Charge Of Recycling Activities

Effective pest control in a building doesn't rely just on the pest control contractor. Problems with insects, rodents, etc. are often due to conditions in and around buildings which provide pests with food, water, harborage, or access into and within buildings. These conditions are usually beyond the control of the pest control contractor, and are in the hands of other individuals who manage and occupy the building.

Integrated Pest Management (IPM) is a common sense approach to pest management that uses a variety of methods to control pests. Chemical pesticides may be part of an IPM program. However, considerable effort is also put towards preventing pest problems by controlling conditions in buildings which may attract and support pests. A successful IPM program requires the collaborative efforts of everyone involved in the management and maintenance of a building. Staff in charge of recycling activities play a crucial part in IPM because many recyclable materials can aggravate pest problems if not controlled properly.

While recycling is meant to improve the environment, it can contribute to environmental problems, particularly those related to indoor air quality, if not done wisely. Air quality problems related to pests include presence of insect chitin (outer shell) which is a potent human allergen, as well as diseases carried by insects and rodents. The presence of pests may also necessitate the use of pesticides which can also contribute to problems with air quality.

For recycling managers, participating in an IPM program should involve only minor changes in policy and habits. More than anything, building occupants who recycle must remain aware of how their activities may provide food, water, or harborage to pests. Educating recycling patrons and making sure they follow "rules" will be one of your biggest challenges.

Below are some key concepts which managers in charge of recycling activities should understand and practice:

Food and Water

Food and drink residues left on recyclable will help support insects and rodents. Cans, bottles, styrene plates, etc. should be washed off thoroughly before being put into recycling bins. Excess wash water should be shaken off items as much as possible before they are put into bins.

If it is not feasible to rinse recyclables, then they should be stored in containers with tight fitting lids. The containers should be emptied as often as possible.

Food and drink residues remaining on the interior of recycling bins can also support insects and rodents. Bins used to store food and beverage containers should be lined with garbage bags. Plastic bags are better than paper. However, they may not be consistent with recycling policies. Paper bags are better than no bag. Bags should be removed EACH time the bin is emptied.

Wherever possible, storage bins should be equipped with tight fitting lids to keep rodents and insects out. Lids which close automatically, such as foot pedal-type, will help ensure that the lid is always on.

Lids may not always keep insects out and it will be difficult to keep all food and water out of recycling bins. Teflon spray coatings are available and marketed to be sprayed on vertical surfaces to keep insects from crawling up them (they slip off!). Consider using one of these products on recycling bins.

Bins should be cleaned as necessary with detergent and hot water.

Enclosed can crusher/bottle shredding machines should be opened and cleaned on a scheduled basis.

Harborage

Stored newspapers, paper bags, cardboard, or other bulk materials may provide hiding and breeding areas for pests. If these types of materials are to be collected for recycling, try to store them away from potential sources of food, such as employee dining areas or where beverage container and styrene recycling bins are kept. The closer together food and harborage sources are, the easier life is for pests.

All recyclables should be picked up as frequently as possible. This keeps pests from being able to rely on a steady source of harborage or breeding area. Constant disruption of pest habitats helps to keep populations from becoming established.

General

Recycling patrons should be educated on proper recycling protocols. Provide them with guidelines/rules on how their recycling habits can encourage or discourage pest problems. It should be explained why it is important to follow these rules. Many people don't make the connection between recycling and pests.

If you have a recycling area where patrons are consistently untidy, or do not rinse recyclables, you may want to consider moving recycling away from that area. The pest control contractor for that building should be able to give you an idea how much a particular area contributes to pest problems.

IPM

Guidance Sheet:

Building Management Staff In Charge Of Waste Disposal and Disposal Contracts

Effective pest control doesn't rely just on the pest control contractor. Problems with insects, rodents, etc. are often due to conditions in and around buildings which provide these pests with **food, water, harborage,** or **access** into and within buildings. These conditions are usually beyond the control of the pest control contractor, and are in the hands of other individuals who manage the building.

Integrated Pest Management (IPM) is a common sense approach to pest management that uses a variety of methods to control pests. Chemical pesticides may be part of an IPM program. However, considerable effort is also put towards preventing pest problems by controlling conditions in buildings which may attract and support pests. A successful IPM program requires the collaborative efforts of everyone involved in the management and maintenance of a building.

Building Management Staff in charge of waste disposal and waste disposal contracts, participating in an IPM program involves controlling waste in a manner which minimizes the amount of food and harborage available to rodents and insects. This may sound like additional work for already overburdened personnel. However, minor changes in day to day work activities and policies are most of what is required. Where larger problems do exist, IPM does not dictate that they must be fixed immediately. Priorities and long term plans may change, but budget and personnel constraints remain valid considerations.

Below are some basic IPM concepts which managers, staff, and contractors involved in waste disposal should understand and practice:

Contracts

Disposal contracts should require that dumpsters be cleaned and sanitized regularly. How often will depend on the type of materials stored in the dumpster, the season, etc. Food residue and debris should not be allowed to accumulate on the inside of dumpsters. Left uncleaned, this can become a constant source of food for rodents and insects.

Disposal contracts should clearly stipulate the type of container to be provided. The type of container should be appropriate for the intended purpose. For instance, containers used for disposal of food waste should be sealed and sized appropriately for the amount of waste generated.

Most dumpsters have a drainage hole which is large enough for rats and mice to enter through. Contracts should stipulate that all dumpsters be fitted with drain hole plugs, and that they be kept in place whenever the dumpster is not being drained.

Overflowing trash cans provide both food and harborage for rodents. Contracts should stipulate that containers be picked up frequently enough to deal with the quantity of waste generated. Containers should be picked up often enough that waste does not overflow, and lids can always be fully closed.

Contracts should stipulate that rubbish spilled during the pickup process should be cleaned up immediately.

Containers intended to hold edible waste should have closeable lids to keep out rodents and insects.

Practices

Most pests are nocturnal and will feed at night. Outdoor public/employee trash cans should not be left overnight without a tight fitting lid in place. Preferably these containers should be equipped with self-closing, swing-type lids.

Where possible, it is best to keep trash receptacles elevated off the ground to help prevent rodents from getting into them. Stored trash cans can be kept on racks. Some types of public/employee trash cans are designed to be attached to poles.

Dumpsters should be placed on properly grade, intact concrete, asphalt or gravel pads. This helps prevent rats from establishing burrows beneath them.

Potential sources of food and harborage should be kept as

far from each other as possible in order to make life more difficult for rodents. Dumpsters and trash containing food wastes should not be placed close to areas of dense shrubbery and overgrowth, or where lumber or other materials are stored.

Areas around dumpsters and trash receptacles should be free of leaves, weeds and debris which might provide harborage to rodents. Nearby areas, especially along fences, benches, and walls, should also be clear.

To the extent possible, dumpsters and trash receptacles should be placed away from buildings (particularly doors and windows). This will help to keep insects and rodents from entering buildings.

If a fence surrounds a trash storage area or dumpster, there should be a minimum clearance of 12" from the bottom of the fence to the ground. This should keep leaves and other debris from accumulating and providing sheltered runways for rodents.

Rodents will often gnaw through plastic trash receptacles to reach food. Metal trash receptacles are preferable. Metal disks installed in the bottoms of plastic cans can also help.

IPM

Guidance Sheet:

Building Management Staff In Charge Of Custodial Services and Contracts

Effective pest control in buildings doesn't rely just on the pest control contractor. Problems with insects, rodents and other pests are often due to conditions in and around buildings which provide these pests with **food**, **water**, **harborage** or **access** into and within buildings. These conditions are usually beyond the control of the pest control contractor, and are in the hands of other individuals who manage the building.

Integrated Pest Management (IPM) is a common sense approach to pest management that uses a variety of methods to control pests. Chemical pesticides may be part of an IPM program. However, considerable effort is also put towards preventing pest problems by controlling conditions in buildings which may attract and support pests. A successful IPM program requires the collaborative efforts of everyone involved in the management and maintenance of a building.

For custodians and their managers, participating in an IPM program involves becoming aware of how work habits and conditions may contribute to, or help to prevent pest problems. Minor changes in work policies habits may be required. An IPM program may sound like additional work for already overburdened personnel. However, minor changes in day to day activities are most of what is required when starting an IPM program. Where larger problems do exist, IPM does not dictate that they must be fixed immediately. Priorities and long term plans may shift, but budget and personnel constraints remain valid considerations.

Below are some basic IPM concepts that custodians, their managers, and custodial contractors should understand and practice:

General Considerations

Custodians are probably more familiar with the buildings they maintain than anyone else who works in that building. They are the ones most likely to see pests or evidence of pests, and the ones most likely to be blamed if a tenant sees pests. Custodians should be familiar with pests and signs of pest problems. If custodians are not familiar with pests or signs of pest problems, then the pest control contractor in charge of the building should be brought in to conduct training for all custodial staff.

Your building should have a person designated to oversee pest control activities. Any indications of pest problems should be reported to this person, who should then tell the pest control contractor. It is also recommended that the person who oversees pest control activities keeps a log of reported problems.

Custodians should receive specific recommendations from the building pest control contractor on actions they can take to reduce pest problems.

Reducing Sources of Food

Most pests are nocturnal and will take advantage of any food waste left sitting overnight. Trash receptacles should be emptied later in the day after building occupants have had lunch and coffee break. Food, even crumbs, left overnight in trash containers will help feed insect and rodent populations. If liners or bags are used in receptacles, they should be replaced each time the receptacle is emptied.

Try to minimize the areas where insects and rodents might find food. If trash must be stored, keep it in a single area of a building. The area should be in a room closed off from the rest of the building and should be cleaned frequently and thoroughly. If possible, keep trash in cans with lids.

Keeping pests out of dumpsters will keep them away from a food source. Dumpsters lids should be kept closed and dumpsters should never be filled so high that the lids can't be shut. If the lid is broken, or the dumpster full, the person responsible for the dumpster pickup should be contacted immediately.

Areas where food is eaten, such at desks or in conference rooms, should be vacuumed periodically. Small crumbs can accumulate in areas where push brooms can't access, such as behind filing cabinets, desk legs, etc.

Outdoor trash receptacles and dumpsters should be kept as far away from building entrances as possible. This decreases the possibility of insects and rodents getting into buildings.

Reducing Sources of Water

Make it standard practice to store mops, sponges, etc. in a manner which will allow them to dry as quickly as possible. Wet cleaning tools should be wrung out as much as possible prior to storage. A wet mop left standing in a bucket can provide several days worth of water for insects or rodents.

Insects and rodents (particularly rats) are drawn to moist areas and standing water. Clogged drains, leaking pipes, and dripping faucets should be reported and fixed.

Some water coolers have overflow basins. These should be emptied and cleaned as frequently as necessary - daily if necessary.

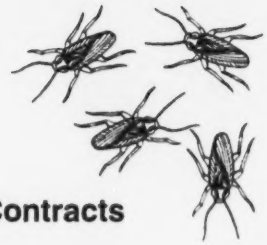
Reducing Access and Harborage

Broken windows, or holes in exterior walls or doors should be fixed as soon as possible. A mouse can fit through a hole as small as 1/4" in diameter.

Keep pests out of buildings. Doors should not be left propped open, particularly near kitchen areas or near dumpsters.

Boxes, paper supplies, and other materials should not be stored in the same areas in which food or trash is stored. This puts food and shelter in the same place, making life easy for pests.

Try not to order more goods than you need. Boxes stored for long periods of time offer good refuge and nesting areas for both insects and rodents.



IPM

Guidance Sheet:

Building Management Staff In Charge Of Landscaping Design and/or Design Contracts

Effective pest control in and around buildings doesn't rely just on the pest control operator. Very often, problems with insects and rodents are due to conditions in and around buildings which provide these pests with *food*, *water*, *harborage* or *access* into and within buildings. These conditions are usually beyond the control of the pest control contractor and are in the hands of other individuals who manage the building.

Integrated Pest Management (IPM) is a common sense approach to pest management that uses a variety of methods to control pests. Chemical pesticides may be part of an IPM program. However, considerable effort is also put towards preventing pest problems by controlling conditions in buildings which may attract and support pests. A successful IPM program requires the collaborative efforts of everyone involved in the management and maintenance of a building.

Landscape design is particularly important in IPM because there are many elements in a landscape which may influence pest problems, both indoors and out. Planning ahead can help avoid creating settings which attract and support insects and rodents. Benefits of an integrated approach to pest management include fewer pests, cleaner buildings, and in most cases less use of pesticides.

Below are some basic IPM concepts which landscape designers should understand and apply in their designs:

Choosing Vegetation

Native vegetation, and vegetation from similar climates are often naturally resistant to local insects and diseases. Check with your local Cooperative Extension Service (affiliated with the State University) for information on species and varieties of plants, shrubbery, trees, and grasses which are best suited to your area.

Plants that shed a minimum of seeds & fruits are preferable, since seeds and fruit may attract and support insects, rodents, and undesired birds

Vegetation should not be planted directly against buildings as it provides shelter and sheltered runways for rodents. For the same reasons, avoid planting dense vegetation that completely covers the ground.

Trees and bushes which produce branches close to the ground (such as some spruce species) may provide shelter for rodents. Ideally, all trees and shrubbery should have a minimum of 12" of clear area between the ground and foliage.

Vines which climb building walls, such as ivies, create runways for rodents, as well as harborage for undesirable bird species. If climbing vines must be used, it is preferable that they are trained to climb trellises. The trellises should be suspended away from the building, to make it more difficult to climb or build nests.

Trees which grow close to buildings or overhang roofs may provide pathways for insects and rodents to gain access to buildings. Trees should be planted away from buildings, or overhanging branches should be trimmed.

Consideration should be given to the placement of trees that shed leaves. Leaves which accumulate along foundations, retaining walls and fences may not always be removed promptly. Accumulated leaves provide harborage and sheltered runways for rodents.

General Design Considerations

Good pest control operators are not just in the business of killing pests. They should be experts in assessing conditions which might support pest populations. A reliable pest control technician should review and offer advice on landscape designs before they are implemented.

Avoid providing Rodent Harborage and Runways:

In planters and planting areas, consider installing heavy-gauge galvanized screening several inches below the soil surface in order to discourage rodent burrowing. Openings should not be greater than 1/4".

If concrete or asphalt abuts walls, it is important to insure that it be constructed without gaps between the pavement and structure. Rats and mice frequently like to burrow and nest in openings of this sort.

Rodents prefer to travel along walls, fences etc. All fences, except those around garbage storage areas, should have a 6-8" space between the bottom of the fence and the ground. This avoids creating sheltered runways for rodents, and prevents the accumulation of leaves and debris which also provide shelter.

Sheet metal can be attached to posts and corners of storage enclosures to help prevent rodents from climbing.

Along walls and pathways, consider installing a 2' wide by 6" deep border of pea stone or ornamental gravel. This discourages rodents from burrowing.

Avoid Creating Situations Which Attract and Support Pests

The closer sources of food, water and harborage are together, the easier life is for rodents and insects. Site potential sources of pest food, water and harborage as far away from each other as possible.

Ground covers such as bark and wood chips are often put down to hold moisture and make an area pleasing. Unfortunately these materials readily trap and hold water, creating the perfect living and breeding conditions for many species of insects. Such materials are also ideal for rodents to burrow in. Avoid using these types of ground covers, particularly in close proximity to buildings. Where ground cover is needed, consider decorative gravel. It drains readily and is difficult for rodents to burrow in.

Outdoor lighting often attracts insects. These insects may become pests themselves by entering the building, or by becoming a source of food for rodents. The type and placement of lighting can help to reduce insect problems.

Ultraviolet (UV) light from outdoor lighting often attracts flying and crawling insects, which can then find their way into buildings. Different types of lighting vary in the amount of UV light they emit. White incandescent, blue mercury vapor, and fluorescent lighting emit relatively high amounts of UV light and are very attractive to insects. High (or more preferably) low pressure sodium vapor bulbs emit yellow light and are less attractive to insects.

Insects are attracted to sources of light, not where the light is directed. Lighting placed away from buildings, but trained on the buildings, is preferable to attaching lighting units directly to buildings.

If lighting must be attached to buildings, place it as far from doorways and windows as possible, particularly frequently used doorways.

Outdoor "bug zappers" which attract and electrocute insects are not effective. Research has shown that they attract more insects than they electrocute.

Pests, particularly rats, need a source of water. Soil/pavement adjacent to buildings and retaining walls should be graded away from buildings. Design grounds so that water does not pool for any period of time. Drainage should be adequate to account for roof and pavement runoff, sprinkler systems, down spouts, etc.

If dumpster areas or garbage storage areas are included in your designs, make sure that dumpsters and trash cans are stored on concrete or asphalt surfaces, as far from building entrances as feasible. Garbage cans should be stored on racks at least a foot off the ground.

If possible, garbage storage areas should be in a separate shed or enclosed and gated areas. Enclosures should be solid (as opposed to chain-link, etc.) and should extend all the way to the ground. Metal or synthetic enclosures are preferable to wood because it is more difficult to climb. Pressure treated, wood is preferable to non-treated wood. If wood is used, consider installing sheet metal along the bottom 12" of the enclosure, particularly on corners. This will help prevent rodents from gnawing and climbing the enclosure. It may also be necessary to install a concrete runner under the fence to prevent rodents from burrowing beneath it.

Persons using outdoor seating and eating areas may leave behind food debris. Provide an adequate number of trash receptacles, in these areas. Avoid siting eating and seating areas near areas of dense vegetation which provides harborage for rodents.

Trash receptacles should have self-closing lids. Metal receptacles are preferable because they are more difficult for rodents to climb or chew through. If receptacles are of an open design such as those constructed of wire mesh, make sure that openings are less than 1/4" in diameter. Where possible, it is best to keep trash receptacles elevated off the ground to help prevent rodents from getting into them. Stored trash cans can be kept on racks. Some types of public/employee trash cans are designed to be attached to metal poles which rodents cannot climb.

IPM

Guidance Sheet:

Building Management Staff In Charge Of LandScape Maintenance and Landscape Maintenance Contracts

Effective pest control in and around buildings doesn't rely just on the pest control contractor. Problems with insects, rodents, and birds are often due to conditions in and around buildings which provide these pests with **food**, **water**, **harborage,** or **access** into and within buildings. These conditions are usually beyond the control of the pest control contractor, and are in the hands of other individuals who manage the building.

Integrated Pest Management (IPM) is a common sense approach to pest management that uses a variety of methods to control pests. Chemical pesticides may be part of an IPM program. However, considerable effort is also put towards preventing pest problems by controlling conditions in buildings which may attract and support pests. A successful IPM program requires the collaborative efforts of everyone involved in the management and maintenance of a building.

For managers and their staff in charge of landscape maintenance and contracts, participating in an IPM program involves managing grounds in a manner which minimizes conditions which might attract or help support pests. An IPM program may sound like additional work for already overburdened personnel. However, minor changes in day to day activities are most of what is required when starting an IPM program. Where larger problems do exist, IPM does not dictate that they must be fixed immediately. Priorities and long term plans may shift, but budget and personnel constraints remain valid considerations .

Below are some basic IPM concepts that staff, their managers, and contractors should understand and practice:

FOOD

Seeds and fruit from trees and bushes can provide food for insects and rodents. Fallen seeds and fruit should be picked up and disposed of promptly.

If possible, garbage storage areas should be in a separate shed or fenced and gated areas. Enclosures should be solid (as opposed to chain-link) and should extend all the way to the ground. Metal or synthetic material is preferable to wood because it is more difficult to climb. Pressure treated wood is preferable non-treated wood because rodents are less likely to gnaw through it. If wood is used, consider installing sheet metal along the bottom 12" of the enclosure, particularly on corners. This will help prevent rodents from gnawing and climbing the enclosure.

People using outdoor benches and dining areas are likely to leave food debris behind. Provide an adequate number of trash receptacles in these areas. Pay particular attention to upkeep of weeds and other vegetation in these areas, which might provide rodent harborage.

Outdoor trash receptacles should have self closing lids. Metal receptacles are preferable to plastic because rodents cannot chew through them. If receptacles are of an open design, such as those constructed of wire mesh, make sure that openings are less than 1/4" in diameter. It is best to elevate wire receptacles off the ground in order to prevent rodents from climbing them. Many are designed to be attached to a metal post which rodents cannot climb.

WATER

Pests, particularly rats, need a source of water. Areas of soil and pavement directly adjacent to buildings and retaining walls should be graded away from buildings. Water should not pool for any period of time anywhere on building grounds. Drainage should be adequate to account for roof and pavement runoff, sprinkler systems, down spouts, etc.

ACCESS AND HARBORAGE

Vegetation planted directly against buildings or walls provides shelter and sheltered runways for rodents. Do not plant vegetation directly against buildings. Allow at least two feet of space.

Dense vegetation that completely covers the ground should be avoided because it also provides shelter for rodents. Where possible, trim trees and shrubbery so as to have a minimum clearance of a foot between the ground and foliage.

Vines which climb building walls, such as ivies, create access runways for rodents. They may also serve as nesting for undesirable species of birds. Vines should be removed, or supported by a trellis which is suspended away from the building.

Trees which grow close to buildings, or overhang roofs can provide pathways by which insects and rodents can enter buildings. They should be trimmed away from structures as much as possible.

Leaves and other clutter which may accumulate along foundations, retaining walls, etc. provide sheltered runways for rodents and should be removed promptly.

In planters and planting areas, consider installing heavy-gauge galvanized screening several inches below the soil surface in order to discourage rodent burrowing. Openings should not be greater than 1/4".

If concrete or asphalt walkways/pavements abut buildings or walls, it is important to insure that they are constructed so as to prevent gaps between the pavement and structure. Rats and mice frequently like to burrow and nest in openings of this sort.

Rodents like to travel along walls, fences etc. Keep these areas free from weeds and debris which might provide shelter and hiding areas.

Rodents often like to burrow beneath pavement. Along walls, paved walkways, etc., consider installing a 2' wide by 6" deep border of pea stone or ornamental gravel. Rodents cannot burrow in gravel.

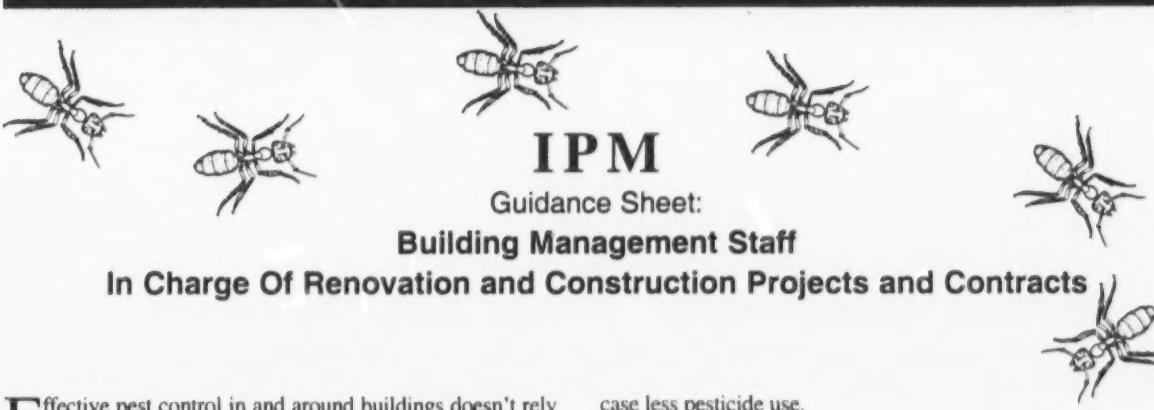
GENERAL

You probably won't be able to remove all possible sources of food, water and harborage. Site potential sources of pest food, water and harborage as far away from each other as possible.

If you are going to be planting any vegetation, check with your local Cooperative Extension Service (generally affiliated with the State University) for information on species and varieties of plants, trees, and grasses which are best suited to your area. Plants which are matched to your local environment are likely to require fewer pesticides and water than exotics.

Good pest control contractors are not just in the business of killing pests. They should be experts in preventing or minimizing pest problems as well. The pest control contractor for your building should provide you with site specific recommendations on what you can do to reduce problems with pests.

Ground covers such as bark and wood chips are often put down to hold moisture and make areas more pleasing. Unfortunately these materials also create perfect living and breeding conditions for many species of insects. They are also ideal for rodents to burrow in. Avoid putting this type of ground cover down, particularly in close proximity to buildings. Where some sort of mulch material is needed, consider peastone or ornamental gravel. It drains readily and is difficult for rodents to burrow in.



IPM

Guidance Sheet:

Building Management Staff In Charge Of Renovation and Construction Projects and Contracts

Effective pest control in and around buildings doesn't rely just on the pest control contractor. Problems with insects and rodents are often due to conditions which provide these pests with **food**, **water**, **harborage** or **access** into and within buildings. These conditions are usually beyond the control of the pest control contractor, and are in the hands of other individuals who manage the building.

Integrated Pest Management (IPM) is a common sense approach to pest management that uses a variety of methods to control pests. Chemical pesticides may be part of an IPM program. However, considerable effort is also put towards preventing pest problems by controlling conditions in buildings which may attract and support pests. A successful IPM program requires the collaborative efforts of everyone involved in the management and maintenance of a building.

For Building Management Staff in charge of renovation and construction projects, participating in an IPM program is a two step approach:

1) Ensuring that project related activities do not contribute to conditions which might support or attract pests.

2) Incorporating design and construction techniques meant to help prevent future pest problems.

Participating in an IPM program may sound like additional work and cost for already overburdened personnel and budgets. However, for the most part, IPM involves simply being aware of how certain practices may contribute to pest problems. Minor changes in work practices and policies are most of what is required. Where larger problems or issues do arise, IPM programs always take into consideration available resources. When allocating resources however, keep in mind that much of IPM is geared toward preventing pest problems. Future savings in terms of reduced pest damage and costs of future pest control activities, must be considered.

A healthier building is also a benefit of an IPM program. IPM can lead to fewer pests, cleaner buildings, and in most case less pesticide use.

Below are some basic IPM concepts that staffs, their managers, and contractors involved in renovation projects should understand and practice:

General Considerations During Projects

The pest control contractor for each building should not be someone whose sole function is to apply pesticides. They should be able to provide advice on how to avoid and prevent pest problems. When any renovation or construction project is undertaken, the pest control contractor should be informed, and an inspection, and consultation scheduled. Also, consider having the pest control contractor review blueprints before they are finalized, so they can make suggestions for changes which will complement an IPM program.

Waste that could be attractive to pests must be controlled by general and subcontractor. Potential sources of food and water, such as worker lunch and coffee break debris, should not be left overnight in open dumpsters or trash receptacles. Specifications for construction and renovation projects should require daily removal of rubbish which might contain food.

Building materials and construction debris should be stored for the minimum amount of time feasible. Stored materials such as lumber and scrap building materials can provide harborage for rodents and insects.

Buildings should not be left open for extended periods of time. Open access will allow rodents to enter and infest the building. Openings in buildings, such as unfinished doorways and windows, should be closed tightly at the end of each workday.

Design and Construction Techniques

Guidance Sheets similar to this one are available which detail the roles of various trades and disciplines involved in the

management of a building. Available Guidance Sheets include:

HVAC - IPM Guidance Sheet for Building Management Staff in charge of Heating, Ventilation, and Air Conditioning Services and Contracts

Electrical Work - IPM Guidance Sheet for Building Management Staff in Charge of Electrical Services and Contracts

Plumbing - IPM Guidance Sheet for Building Management Staff in Charge of Plumbing Systems and Contracts

Landscape Design - IPM Guidance Sheet for Building Management Staff in Charge of Landscaping Designs and/or Design Contracts

Roofing - IPM Guidance Sheet for Building Management Staff in Charge of Roofing and Roofing Contracts

Waste Disposal - IPM Guidance Sheet for Building Management Staff in Charge of Waste Disposal and Waste Disposal Contracts

These Guidance Sheets should be distributed by, and available from, the head of Building Management or the person they have designated as the Pest Control Supervisor (or equivalent title). Persons managing renovation and construction projects should obtain copies of the above Guidance Sheets in order to establish IPM policies and contract provisions.

IPM

Guidance Sheet:

Building Management Staff Responsible for Building Repair and Repair contracts

Effective pest control in and around buildings doesn't rely just on the pest control contractor. Problems with insects, rodents, etc. are often due to conditions in and around buildings which provide these pests with **food**, **water**, **harborage,** or **access** into and within buildings. These conditions are usually beyond the control of the pest control contractor, and are in the hands of other individuals who manage the building.

Integrated Pest Management (IPM) is a common sense approach to pest management that uses a variety of methods to control pests. Chemical pesticides may be part of an IPM program. However, considerable effort is also put towards preventing pest problems by controlling conditions in buildings which may attract and support pests. A successful IPM program requires the collaborative efforts of everyone involved in the management and maintenance of a building.

Managers in charge of building repairs and renovations should consider how their projects could be done in ways which would complement and enhance other IPM efforts. An IPM program may sound like additional work for already overburdened personnel. However, minor changes in day to day activities are most of what is required when starting an IPM program. Where larger problems do exist, IPM does not dictate that they have to be fixed immediately. Priorities and long term plans may shift, but budget and personnel constraints remain valid considerations .

Below are some basic IPM concepts that managers, staff, and contractors in charge of building repair and maintenance should understand and practice:

REDUCING SOURCES OF WATER

All pests, particularly rats, need a supply of water in order to survive. Slow or clogged drains, or minor leaks in out-of-the way places may not cause any structural damage to a building, but they will help support roach and rodent populations. They should be fixed immediately.

Clogged gutters and drainpipes also provide water to pests. Likewise, water should not be allowed to accumulate in puddles on grounds surrounding buildings. Pay particular attention to areas around sprinkler and drainage systems.

Condensation on pipes and refrigeration units can also supply insects and rodents with water. Where feasible, areas prone to condensation should be insulated.

Steam leaks should be repaired.

REDUCING ACCESS

Pests can get into buildings through virtually any opening. A mouse can squeeze through a hole as small as a 1/4". Any holes from the outside to the inside of a building should be repaired immediately. Windows, screens and vent covers must be kept intact. Openings in foundations, walls, fascia, etc. must be tightly closed. Pay particular attention to areas where utilities enter and exit buildings.

Doors and windows which do not close completely must be fixed immediately to prevent pests from getting in. This is particularly important in locations close to kitchen and eating areas, and where garbage is stored. Doors which do not completely seal at the bottom should be fitted with weatherproof "sweeps."

Automatic door closers should be considered for heavily used doors that tend to be left open, and for doors that are in close proximity to rooms or outdoor areas where food or trash is present.

When pest control contractors find rodent holes accessing buildings, they often make temporary repairs (often using wire mesh). Make sure you are informed when such repairs are made so you can make permanent repairs.

REDUCING HARBORAGE

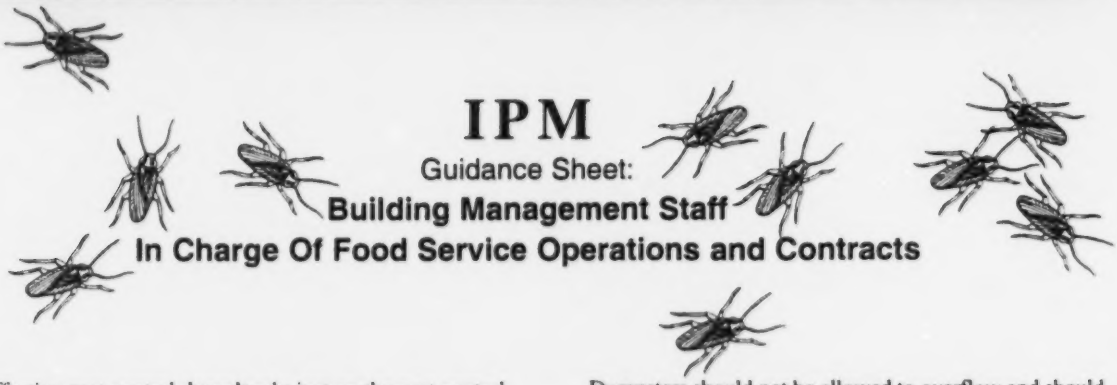
Warmth is also necessary for pests, especially in breeding areas. Unwrapped heat and hot water pipes should be insulated

wherever possible, particularly in tight out-of-the-way places.

Small cracks and crevices within buildings can harbor insects such as cockroaches and allow them to travel throughout a building. Whenever practical and possible, caulk or seal these areas. Potential targets may include gaps around window and door casings, along baseboards, where pipes and utility lines enter and exit rooms, etc.

While it may be impossible to seal off every crack and potential runway in a building, every little bit helps. Pay particular attention to areas near kitchens and cafeterias, and where garbage is stored.

Efforts to seal areas of access and harborage can be implemented as separate projects, or be made a standard practice whenever related repairs (such as painting or plumbing repair) are undertaken.



IPM

Guidance Sheet:

Building Management Staff In Charge Of Food Service Operations and Contracts

Effective pest control doesn't rely just on the pest control operator. Problems with insects and rodents are often due to conditions in and around buildings which provide these pests with **food**, **water**, **harborage,** or **access** into and within buildings. These conditions are usually beyond the control of the pest control operator, and are in the hands of other individuals who manage the building.

Integrated Pest Management (IPM) is a common sense approach to pest management that uses a variety of methods to control pests. Chemical pesticides may be part of an IPM program. However, considerable effort is also put towards preventing pest problems by controlling conditions in buildings which may attract and support pests. A successful IPM program requires the collaborative efforts of everyone involved in the management and maintenance of a building.

For staff, managers and contractors involved in food services, participating in an IPM program involves instituting work practices and policies which minimize the availability of food and water to insects and rodents.

An IPM program may sound like additional work for already overburdened personnel. However, minor changes in day to day activities are most of what is required when starting an IPM program. Where larger problems do exist, IPM does not dictate that they have to be fixed immediately. Priorities and long term plans may shift, but budget and personnel constraints remain valid considerations .

Below are some basic IPM concepts that staffs, their managers, and contractors involved in food services should understand and practice:

GARBAGE

Dumpsters are often a source of food for insects and rodents. They should always be equipped with lids in order to keep rodents out, and to keep the garbage in. Lids should always be closed after loading.

Dumpsters should not be allowed to overflow and should be emptied as needed. The lid should always be able to be closed fully.

Dumpsters should be kept as far away as practical from building entrances and windows. This will help avoid attracting insects and rodents to areas where they can gain access to the building.

Garbage which is not put in dumpsters should be placed in cans with tight fitting lids to keep pests from gaining access to food. Liners will help keep cans free from food debris.

To keep rodents from getting in, garbage cans should be stored in racks at one foot off the ground and should be cleaned periodically with hot water and detergent. Lids should always be in place when not in use.

Rodents can gnaw through plastic, so metal cans are preferable. If plastic cans are to be used, consider installing a metal disk in the bottom of the can.

STORAGE

A little spillage can feed a lot of cockroaches. Tears or ruptures in sacks or containers of food should be repaired ASAP. If damaged items cannot be repaired, the food should be repacked in intact containers.

The longer food and other items are stored, the more likely it is that insects or rodents will get into them. Foodstuffs and potential nesting materials such as paper napkins should be rotated so that the older products are used first. Avoid storing unnecessary quantities of items.

Store foodstuffs and items such as paper napkins at least 12" off the floor, in tightly sealed containers. This keeps food and nesting materials away from rodents and allows the area beneath shelving to be cleaned periodically.

Avoid storing food or potential nesting materials in cardboard boxes for extended periods of time. Rodents can easily chew through cardboard, and insects find good harborage in the folds of boxes and beneath them. If storage of cardboard boxes cannot be avoided, store boxes with enough space around them to allow for inspection, and to avoid creating pest harborage.

If possible, shelving units should be kept away from walls to allow for inspection and to avoid creating harborage areas. Metal shelves are preferable to wooden ones because they are easier to clean and do not absorb spilled materials.

The farther sources of food are from sources of harborage, the more difficult life is for pests. Non-food items, such as linens, glassware, and dishes should be stored as far from food items as possible.

Insects and rodents are most active at night. Do not leave edible foodstuffs uncovered or exposed overnight. Kitchen items and surfaces should not be left unwashed overnight.

Soiled cloth napkins, aprons, tablecloths, etc. may also provide a food source for insects and rodents. They should be kept in a sealed hamper with a lid, and washed frequently.

INSPECTIONS

All food service personnel should be able to identify pests and have some knowledge of their life cycles and habitats. The Pest Control Contractor who services your building should be available to provide training to all food service personnel.

All incoming shipments of food and goods (particularly produce) should be inspected for signs of insect infestation, damage or contamination. If there is any evidence of pests, the shipment should be refused since even a few insects can quickly become many.

Food storage areas should be inspected for pests at least twice per month. Problems should be reported to the person responsible for pest control in the building.

Pests, particularly rats, need water to survive. Pipes, garbage disposal conduits, drain fittings, ice machines, etc. (including those in out-of-the-way places) should be inspected weekly for leaks. Clogged or slow drains can also provide a source of water and should be cleared ASAP.

For the same reason, water should not be left standing in steam tables or sinks when not in use, especially overnight.

CLEANING

Kitchen areas should be kept clean throughout. Dirty dishes, crumbs, sinks, etc. should not be left for extended periods of time, particularly overnight.

Pits below dumb waiters should be checked and cleaned frequently. Food and soiled utensils frequently fall from into these pits providing food for insect and rodents.

Portable items such as food carts and tray racks should be cleaned frequently and kept free of food debris. Steam cleaning is preferable if the items are not susceptible to heat damage.

OTHER CONTROL MEASURES

Pests often get into buildings the same way people do. Doors leading outdoors (especially to dumpsters) from food service areas are one of the main ways rodents find their way indoors. Doors should be equipped with self-closers and should never be left propped open. Where doors may frequently be propped open for ventilation or other reasons, screen doors should be installed. Damaged screens should be repaired as necessary.

Legs of food and tray carts can be coated with teflon® paint or spray to make it more difficult for insects and rodents to crawl up them. Crevices and openings in carts can be caulked or filled with foam type insulation in order to seal off potential harborage sites to insects. (Note: if the cart contains any electrical implements, be sure to check with the manufacturer before making alterations or cleaning).

Sealing areas of insect and rodent harborage and access can help to reduce problems, particularly in kitchen and dining areas. Alterations might include caulking around counter back splashes, putting screens over exhaust fans and windows, sealing around pipe chases, etc. Contact the person in charge of minor repairs and maintenance of food service areas.

IPM

Guidance Sheet:

Building Management Staff In Charge Of Heating Ventilation, and Air Conditioning (HVAC) Services and Contracts

Effective pest control in buildings doesn't rely just on a pest control contractor. Problems with insects and rodents are often due to conditions in and around buildings which provide these pests with **food**, **water**, **harborage** or **access** into and within buildings. These conditions are usually beyond the control of the pest control contractor, and are in the hands of other individuals who manage the building.

Integrated Pest Management (IPM) is a common sense approach to pest management that uses a variety of methods to control pests. Chemical pesticides may be part of an IPM program. However, considerable effort is also put towards preventing pest problems by controlling conditions in buildings which may attract and support pests. A successful IPM program requires the collaborative efforts of everyone involved in the management and maintenance of a building.

For Building Management Staff in charge of HVAC systems, participating in an IPM program involves taking measures to reduce sources of water available to pests, and reducing the means of access by which pests enter and travel throughout buildings. An IPM program may sound like additional work for already overburdened personnel. However, minor changes in day to day activities are most of what is required when starting an IPM program. Where larger problems do exist, IPM does not dictate that they have to be fixed immediately. Priorities and long term plans may shift, but budget and personnel constraints remain valid considerations .

Below are some basic IPM concepts that HVAC managers, staff, and contractors should understand and practice:

Reducing Sources of Water

Leaks in cooling towers, pipes, etc. should be fixed as soon as possible, no matter how minor. A small trickle of water can support large insect or rodent populations.

Condensation on pipes, or where steam valves open, can also support pests. Pipes should be insulated, and steam valves vented to open areas where moisture will not condense.

Reducing Access to and Through Buildings

All intake and out-take vents should be screened to prevent insects and rodents from entering buildings.

HVAC components such as piping, ductwork, breaching, etc. provide runways by which insects and rodents can travel throughout buildings. One significant measure that can be taken in pest control is to block these runways. The best place to do this is where components meet walls, floors, or ceilings. Caulk, sheet metal, steel wool, spray foam insulation, and cement are some of the most commonly used materials. Closing off these types of areas can be made part of contracts, become a separate project, or become part of standard procedure when making repairs.

When blocking access holes or around piping, etc., keep in mind that mice can get through holes as small as 1/4" in diameter. Roaches and ants can get through even smaller openings. Be thorough.

It is most important to seal off runways leading to and from potential sources of food and water such as kitchen areas, cafeterias, bathrooms, etc.

General

Pests need warmth, particularly to breed. Wherever possible, insulate pipes, breaching, vents and other heat sources, particularly in tight out-of-the-way places.

Holes made to install pipes, computer lines, etc. must be sealed when the installation is complete. The job is not done until the holes are sealed.

Notes

IPM

Guidance Sheet:

Building Management Staff In Charge Of Electrical Services and Contracts

Effective pest control doesn't rely just on a pest control contractor. Problems with insects and rodents are often due to conditions in and around buildings which provide these pests with *food, water, harborage*, or *access* into and within buildings. These conditions are usually beyond the control of the pest control contractor, and are in the hands of other individuals who manage the building.

Integrated Pest Management (IPM) is a common sense approach to pest management that uses a variety of methods to control pests. Chemical pesticides may be part of an IPM program. However, considerable effort is also put towards preventing pest problems by controlling conditions in buildings which may attract and support pests. A successful IPM program requires the collaborative efforts of everyone involved in the management and maintenance of a building.

For Building Management Staff in charge of electrical services and contracts, participating in an IPM program is minimal. Efforts will involve ensuring that simple measures are taken which make it difficult for pests to travel throughout buildings via electrical wires. There are also some other IPM practices relating to electrical work that can be kept in mind.

An IPM program may sound like additional work for already overburdened personnel. However, minor changes in day to day activities are most of what is required when starting an IPM program. Where larger problems do exist, IPM does not dictate that they have to be fixed immediately. Priorities and long term plans may shift, but budget and personnel constraints remain valid considerations .

Below are some basic IPM concepts that electricians, their managers, and electrical contractors should understand and practice:

Access

In buildings, rodents and insects use electrical wires and conduits as means to gain access to, and to travel throughout buildings. While is impossible to remove every possible "route" of travel, the more impediments put in place, the more difficult it is for pests to thrive. The best way to block off routes is to plug gaps and openings where wires and conduits come through walls, ceilings, floors, the backs of cabinets, etc.

It is imperative that all gaps and openings between the inside and outside of buildings be sealed off.

Rodents can get through gaps and holes as small as 1/4" in diameter. Steel wool and cement are the best substance to plug openings 1/4" or greater. Rodents may gnaw through softer substances.

Insects can crawl through very small spaces but are not as proficient at gnawing through hard substances as rodents. Holes and gaps less 1/4" in diameter can be sealed with caulking. Spray foam insulation from a can is also effective.

Indoors, it is most important to seal areas leading to and from food service areas, where garbage is stored, and other where there are potential sources of food and water.

Lighting - Outdoor lighting often attracts insects. These insects may become pests themselves by entering the building, or by becoming a source of food for rodents. Choosing the right type of lighting, and placing it in the right locations, can help to reduce insect problems.

Ultraviolet (UV) light from outdoor lighting often attracts flying and crawling insects, which can then find their way into buildings. Different types of lighting vary in the amount of UV light they emit. White incandescent, blue mercury vapor, and fluorescent lighting emit relatively high amounts of UV light and are very attractive to insects. High (or more preferably) low pressure sodium vapor bulbs emit yellow light and are less attractive to insects.

Insects are attracted to sources of light, not where the light is directed. Lighting placed away from buildings, but trained on the buildings, is preferable to attaching

lighting units directly to buildings.

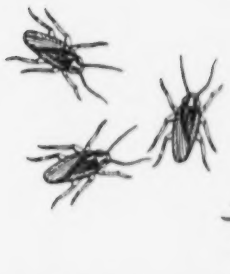
If lighting must be attached to buildings, place it as far from doorways and windows as possible, particularly frequently used doorways.

Outdoor "bug lights" which attract and electrocute insects, are not effective and may attract more insects than they kill. If installation of an outdoor bug light is suggested, you may want to suggest alternatives control measures.

Other Considerations

Electricians often go into areas of buildings which others don't frequent (crawl spaces, inside drop ceilings, etc.). If you notice a lot of pests or evidence of pests in such an area, inform the pest control manager for the building.

All pests require food and water to survive. If you notice an abundance of either in an area where it shouldn't be, let the pest control manager know.



IPM

Guidance Sheet:
Building Management Staff
In Charge Of Plumbing Systems and Contracts

Effective pest control doesn't rely just on the pest control contractor. Problems with insects and rodents are often due to conditions in and around buildings which provide these pests with **food**, **water**, **harborage** or **access** into and within buildings. These conditions are usually beyond the control of the control contractor, and are in the hands of other individuals who manage the building.

Integrated Pest Management (IPM) is a common sense approach to pest management that uses a variety of methods to control pests. Chemical pesticides may be part of an IPM program. However, considerable effort is also put towards preventing pest problems by controlling conditions in buildings which may attract and support pests. A successful IPM program requires the collaborative efforts of everyone involved in the management and maintenance of a building.

For Building Management Staff in charge of Plumbing Systems, participating in an IPM program involves: 1) reducing the amount of water that is available to pests 2) limiting the access of pests to buildings, and their ability to travel throughout buildings.

An IPM program may sound like additional work for already overburdened personnel. However, minor changes in day to day activities are most of what is required when starting an IPM program. Where larger problems do exist, IPM does not dictate that they have to be fixed immediately. Priorities and long term plans may shift, but budget and personnel constraints remain valid considerations .

Below are some basic IPM concepts that plumbers, their managers, and plumbing contractors should understand and practice:

REDUCING SOURCES OF WATER - All living things need water to survive. Reducing available water is a critical step in effective pest control.

Unlike mice and insects, rats cannot metabolize enough water from food to survive. They need a reliable source of water. Taking away sources of water is a crucial step in rat control.

Leaking pipes and faucets should be fixed as soon as possible. A five-gallon bucket under a slow leak may seem an easy solution to a plumbing problem. However, it provides a watering trough for rats, mice and roaches.

Clogged or slow drains should be fixed as quickly as possible.

Condensation is also a significant source of water for pests. Insulate any pipes in areas which might be prone to condensation.

Outdoor sources of water are just as important as indoor sources. Pay attention to outdoor faucets, roof and pavement drains, and sprinkler systems.

Reducing water sources is particularly important in areas which are close to potential sources of food for pests - kitchens, cafeterias, garbage chutes and dumpsters.

PEST ACCESS TO AND THROUGH BUILDINGS

Rodents typically get into a building through openings around plumbing. Wherever possible, seal around sillcocks, sewer lines, and other openings. Cement or metal materials (such as sheet metal or steel wool) work best for openings greater than _ inch. Caulk or fiberglass is acceptable for smaller gaps.

Pipes running throughout buildings are often the means by which insects and rodent travel throughout buildings. While it is virtually impossible to close off every travel route, some caulk or steel wool stuffed around pipe openings can make life more difficult for pests. Spray foam insulation from a can also works well. Pay particular attention to pipe runs leading to areas where sources of food and water are typically present.

Mice can squeeze through a hole as small as 1/4 inch. Insects can get through even tighter openings. It's necessary to be thorough when closing up access holes and runways.

GENERAL CONSIDERATIONS

Consider heat sources as possible pest problems. Insects and rodents need warmth, particularly in nesting areas. Wrap heat and hot water pipes whenever possible, especially in tight, out-of-the way places.

Plumbing problems often occur in areas of buildings that are seldom visited (such as crawl spaces). If you are in an area and see a lot of pest activity, let the pest control manager for the building know.

All pests need food and water. Inform the pest control manager for the building, if you find significant amounts of either in areas where they should not be.

IPM

Guidance Sheet:

Building Management Staff In Charge Of Roofing and Roofing Contracts

Effective pest control doesn't rely just on the pest control contractor. Problems with insects, rodents and unwanted species of birds are often due to conditions in and around buildings which provide these pests with **food, water, harborage, or access** into and within buildings. These conditions are usually beyond the control of the pest control contractor, and are in the hands of other individuals who manage the building.

Integrated Pest Management (IPM) is a common sense approach to pest management that uses a variety of methods to control pests. Chemical pesticides may be part of an IPM program. However, considerable effort is also put towards preventing pest problems by controlling conditions in buildings which may attract and support pests. A successful IPM program requires the collaborative efforts of everyone involved in the management and maintenance of a building.

For Building Management Staff in charge of roofing systems, participating in an IPM program requires that roofs, roof drains, gutter systems, etc. are designed and maintained in a manner which not only protects the building from water damage, but also avoids conditions which are attractive to pests such as rodents, birds and insects.

An IPM program may sound like additional work for already overburdened personnel. However, minor changes in day to day activities are most of what is required when starting an IPM program. Where larger problems do exist, IPM does not dictate that they have to be fixed immediately. Priorities and long term plans may shift, but budget and personnel constraints remain valid considerations .

Below are some basic concepts on how IPM relates to roofing systems. Managers, staff and contractors who deal with roofing systems should understand and apply these concepts.

REDUCE HARBORAGE AREAS AND ACCESS TO BUILDINGS

Whenever possible, doors, hatches, skylights, and other openings should be screened. Fan and vent openings should be covered with galvanized mesh with openings of 1/4" or smaller. Doors should be equipped with self-closers wherever practical.

Don't allow tree branches to touch or overhang roofs. Overhanging limbs provides a bridge by which insects and rodents can gain access to structures.

Vegetation which climbs buildings, such as ivy, may also provide access and harborage to rodents and birds. It should be removed or trained onto trellises suspended away from buildings.

Before new roof covering is installed, the materials to be covered must be dry. If not, the new roofing will seal in the moisture, possibly creating an attractive habitat for carpenter ants or other pests.

Soffits and fascia must be kept intact. Small knot holes or cracks are open doors to insects and rodents. Water damaged wood provides good nesting material for carpenter ants.

Birds which roost on ledges or on other parts of buildings may become pests or introduce pests such as bird mites into buildings. A number of products are marketed which physically prevents birds from roosting. These include "bird spikes", repellent coatings, netting, and more. Wire mesh can also be installed over tighter openings and overhangs frequently visited by birds.

Open chimneys can provide homes, as well as access into buildings for birds and other animals. Consider installing wire mesh or chimney caps.

REDUCE SOURCES OF FOOD AND WATER

Roof drains and down spouts should be kept open and free flowing. Standing water in gutters provides water to rats and other pests.

Gutters which are clogged, sag, or are pitched inappropriately will also hold water. Check gutters periodically (at least in the late fall and spring) for standing water.

Coordinate with the manager in charge of landscape maintenance to ensure that roof drainage does not cause pooling on the grounds.

Weeds growing on roofs or in gutters may produce seeds, which provide food to insects and rodents.

IPM

Guidance Sheet:

Office Workers, Teachers,and Students

The management of this building is adopting an **Integrated Pest Management (IPM)** program. IPM is a common sense approach to pest management that uses a variety of methods to control pests. Chemical pesticides may be part of an IPM program. However, considerable effort is also put towards preventing pest problems by controlling conditions in buildings which may attract and support pests. A successful IPM program requires the collaborative efforts of everyone involved in the management and maintenance of a building.

As someone who works in this building, you also have a role in IPM. Pest control operators cannot do an adequate job of controlling pests without the cooperation of you and others who work in this building. When everyone does their part, IPM programs usually result in exceptional control of pests while using the least amount of pesticide necessary. Your cooperation will help ensure that this building is as healthy and pleasant a workplace as possible.

For the most, part your role in the IPM program will involve making sure that food and water available are not available to rodents and insects. Here are some simple steps that you can take to cooperate with the IPM program, and help keep pests out of your work space:

COFFEE BREAKS AND LUNCH

- Don't keep open, unsealed foods in desks, file cabinets, or Lockers. If you need to keep food, keep it in tightly sealed plastic containers. Thin plastic bags will not keep a hungry mouse or roach from sharing your lunch.
- Clean up any crumbs or drinks that might spill. A few crumbs under a desk can support a lot of roaches.
- It's best if everyone eats in a central area. If people do eat at their desks, be tidy. If possible, provide one central wastebasket with a tight fitting lid where all food and drink containers can be disposed of. Pour liquids down sinks before throwing away cups. Wrap up any crumbs in wrappers tightly before discarding.
- If you must eat at your desk, discard unfinished foods and scraps (including food wrappers) by wrapping them tightly and placing in the rubbish container.
- Some water coolers have a catch basin for spilled water. Make sure this is emptied at the end of every work day.

PLANTS

- Don't over-water plants. Sopping wet soil, or water in the overflow dish, doesn't do the plant any good and provides a great watering hole for insects and rodents. It's better to give plants a little water more frequently, than a lot of water once in a while.
- If you keep water in a container for watering plants, make sure the container is sealed. Open water containers will attract and support insects and rodents.
- Keep pots and the areas around them clean of leaves, seed pods, etc. These can provide a food and nesting materials for rodents and insects.
- Don't keep plants that produce seeds or fruit. These can provide a great snack for rodents.
- If you use a pesticide on your plants, make sure you read and follow the label directions.

RECYCLING

- Rinse all cans and bottles, and shake out excess water before putting in recycling bins. Rinse food off any styrene plates that go into recycling containers. Clean, dry recyclables will not attract pests. Empty beverage containers need to be collected and confined to limited areas so that if problems do occur, they are in one isolated location.

- If you recycle, place your recyclables in designated receptacles. Don't store them by your work station for later pickup. This keeps all sources of food in one location making it easier to detect and control pest problems should they occur.

- Don't store stacks or boxes of paper to be recycled right next to garbage cans or recycling storage bins. This is equivalent to building a pest Bed and Breakfast for pests.

IN GENERAL

- If you find leaks in water fountains, water coolers or rest room plumbing, let your building manager know. Small, unfixed leaks can help support pests.

- Office trash should be picked up in the afternoon rather than the morning so that coffee break and lunch debris doesn't sit overnight, providing a revolving menu for pests. Call your building manager if your office trash is being picked up before lunch.

- If you see a pest, call Building Management and let them know. If possible, try to note exactly where in a room it was seen and where it ran off to. For instance, if a roach is seen running into a particular hole in the floor, this can be plugged.

- Keep your work area neat and organized. Congestion and clutter can create excellent pest hiding places.

- Pick up spillage that can attract and feed pests. Spilled coffee grounds and beverages should be cleaned up as the spill occurs.

- Individuals responsible for purchasing need to understand storage limitations. Excess supplies result in cluttered and congested storage areas. This makes cleaning, maintenance, and proper pest control difficult, if possible at all.

IPM

Guidance Sheet:

Condominium and Apartment Residents

The management of this building is adopting an **Integrated Pest Management (IPM)** program. IPM is a common sense approach to pest management that uses a variety of methods to control pests. Chemical pesticides may be part of an IPM program. However, considerable effort is also put towards preventing pest problems by controlling conditions in buildings which may attract and support pests. A successful IPM program requires the collaborative efforts of everyone involved in the management and maintenance of a building.

As someone who lives in this building, you also have a role in IPM. Pest control operators cannot do an adequate job of controlling pests without the cooperation of you and others who live here. When everyone does their part, IPM programs usually result in exceptional control of pests, while using the least amount of pesticide necessary. Your cooperation will help ensure that this building is as healthy and pleasant a place to live as possible.

For the most part, your role in the IPM program will involve making sure that food and water are not available to rodents and insects. Here are some simple steps you can take to cooperate with the IPM program, and help keep pests out of your home and your neighbors:

Don't Feed the Pests - all living things need food to survive. If there is no food in your building, rodents and insects won't have a reason to be there.

Take trash out frequently. While it may be garbage to you, it's a buffet for mice and cockroaches. The longer the trash sits, the more likely pests are to find and use it.

Keep a clean home. A few crumbs under the table may not be that noticeable, but insects and rodents will find them. Counters, dining tables, and dishes should be cleaned after every meal.

It is impossible to remove all food sources from a home. Everyone leaves an occasional dirty dish in the sink. However, the longer food sits, the more likely pests are to find it. Avoid habits which result in sources of food being frequently left in the same location.

Pests are most active at night. It is most important not to leave food sitting overnight.

Don't Give the Pests Water - all living things need water to survive. The less water that is available in your home, the less likely pests will want to be there.

Don't over water plants. Sopping wet soil and water in the overflow dish doesn't do the plant any good, but it does provide a watering hole for rodents and insects.

Fix leaky faucets and clogged drains.

If your bathroom has an exhaust fan, use it after showers and baths. Condensation on walls will help support cockroaches.

Mops, sponges, washrags and other cleaning utensils that become wet should be store in a way that allows them to dry.

Some refrigerators have drain pans beneath them which collect condensation. These should be emptied periodically, particularly during hot weather.

If you recycle, rinse all bottles and other items which might have food residue. Dry these items as much as possible before storing them.

Don't Give Pests a Place to Live - pests need shelter in order to breed and hide.

Stored newspapers and shopping bags provide good nesting and hiding places for cockroaches. If you must store these materials, don't store too many for too long a period of time.

Keep stored material as far away from sources of food as possible. If napkins, linens, bags, recyclables, etc. are stored close to food, cockroaches are more likely to find and use them.

Avoid clutter in general. The more places there are for pests to hide undisturbed, the better they like it.

Notes

Building Management
Manager IPM Report

Division/Activity (plumbing, recycling etc.): _____

Date covered by report _____ to _____

Have you received recommendations from the pest control contractor for each building you work in?

How have you altered your work policies or habits in response to Building Management's IPM program?

What problems has IPM caused for you (budget, time, etc.)?

What barriers might prevent you from participating in the IPM program?

What do you think can be done to overcome these barriers?

Pest Control Contractor
Activity Report

Building: _____

Date: _____

Have you made previous recommendations for this building?

If so, have they been implemented?

What do you see as the most significant barriers to effective pest control in this building?

Recommendations

Sanitation -

Water Sources -

Harborage/Access -

IPM CONTACT LIST

Building: _____

Division	Contact	Phone #
Pest Control Supervisor		
Waste Disposal		
Recycling		
Electrical		
Custodial Services		
Roofing		
Plumbing		
HVAC		
Grounds Maintenance		
Grounds Design		
New Construction		
Renovation		
Building Repair		
Food Service		

Pest Control Contractors	Contact	Phone #

IPM and Pesticide Resources

EPA Pesticide Hotline **1-800-858-PEST**

- general information about pesticide safety.

MA Department of Food and Agriculture, ... **(617) 626-1700**
Pesticide Bureau

- information on IPM
- health and safety information about pesticides.
- check on license status of an individual.
- check on product registration.
- information about pesticide laws and regulations.
- to file a pesticide related complaint.

MA Poison Control System ..... **(617) 232-2120**

- in case of accidental exposure to pesticides ..... **(617) 682-9211**

New England Pest Control Association ..... **(781) 899-5843**

National Pest Control Association ..... **(800) 678-6722**

MA Department of Public Health ..... **(617) 524-8062**

- questions on state health and sanitation codes

Notes

Notes